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Subchapter 7. General Industry Safety Orders, Group 4, General Mobile Equipment and Auxiliaries, Article 24. Elevating Work Platforms and Aerial Devices

Amend Sections 3637, 3638, 3639, 3640, 3642 and 3646 as follows:

§3637. Definitions.

Aerial Device. Any vehicle-mounted or self-propelled device, telescoping extensible or articulating, or both, which is primarily designed to position personnel.

Aerial Ladder. An aerial device consisting of a single-or-multiple-section extension ladder.

Articulating Boom. An aerial device with two or more hinged boom sections.

Boom. An elevating member; the lower end of which is so attached to a rotating or non-rotating base that permits elevation of the free or outer end in vertical plane.

Elevating Work Platform. A device designed to elevate a platform in a substantially vertical axis. (Vertical Tower, Scissor Lift, Mast-Climbing Work Platform)

Extensible Boom Platform. An aerial device (except ladders) with an extensible boom. Telescopic booms with personnel platform attachments shall be considered to be extensible boom platforms.

Insulated Aerial Device. An aerial device designed for work on energized lines and apparatus.

Mast-Climbing Work Platform. A powered elevating work platform or platforms, supported on one or more vertical masts, for the purpose of positioning personnel, along with necessary tools and materials, to perform their work.

Orchard Man-Lift (Pruning Tower). An aerial device designed to elevate and position personnel for the purpose of harvesting and/or pruning fruit and nut trees.

Override. The taking over of primary control functions from a secondary location.

Pin-On Platform. A platform other than basket or tub, without a guardrail which is attached to a boom by hinge or pivot connection allowing movement in the vertical plane, including such hinge down platforms used at the upper end of aerial ladders.

Platform. Any personnel-carrying device (bucket, basket, cage, stand, tub, or equivalent) which is a component of an aerial device.

Rated Work Load. The safe design live load carrying capacity of the work platform.

Stability. A condition of a work platform in which the sum of the moments, which tends to overturn the unit is less than the sum of the moments tending to resist overturning.

Work Platform, Adjustable. Any device that has a platform which is vertically, horizontally or rotationally adjustable and supported by a structure.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

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§3638. ~~Equipment Instructions and Marking~~ General Requirements.

(a) Each unit shall have a manual containing instructions for maintenance and operations. If a unit is able to be operated in different configurations, then these shall be clearly described, including the rated capacity in each configuration.

(1) The required manual(s) shall be maintained in a weather resistant storage location on the elevating work platform or aerial device.

(b)(1) Each aerial device or elevating work platform placed in service prior to December 23, 1999 shall have a conspicuously displayed legible plate or other legible marking verifying the aerial device or elevating work platform is designed and manufactured in accordance with the following applicable specifications:

ANSI A92.2-1969 or 1979 for ~~v~~Vehicle ~~m~~Mounted ~~e~~Elevating and ~~r~~Rotating ~~a~~Aerial ~~d~~Devices

ANSI A92.3-1980 for ~~m~~Manually ~~p~~Propelled ~~e~~Elevating ~~w~~Work ~~p~~Platforms,

ANSI A92.5-1980 for ~~b~~Boom ~~s~~Supported ~~e~~Elevating ~~w~~Work ~~p~~Platforms,

ANSI A92.6-1979 for ~~s~~Self-~~p~~Propelled ~~e~~Elevating ~~w~~Work ~~p~~Platforms,

ANSI A92.7-1981 for ~~a~~Airline ~~g~~Ground ~~s~~Support ~~v~~Vehicle-~~m~~Mounted ~~v~~Vertical ~~l~~Lift ~~d~~Devices~~.~~,

ANSI/SIA A92.9-1993 for Mast-Climbing Work Platforms.

(2) Each aerial device or elevating work platform placed in service on or after December 23, 1999 shall have a conspicuously displayed legible plate or other legible marking verifying the aerial device or elevating work platform is designed and manufactured in accordance with the following applicable specifications:

ANSI/SIA A92.2-1990 for ~~v~~Vehicle-~~m~~Mounted ~~e~~Elevating and ~~r~~Rotating ~~a~~Aerial ~~d~~Devices,

ANSI/SIA A92.3-1990 for ~~m~~Manually ~~p~~Propelled ~~e~~Elevating ~~a~~Aerial ~~p~~Platforms,

ANSI/SIA A92.5-1992 for ~~b~~Boom-~~s~~Supported ~~e~~Elevating ~~w~~Work ~~p~~Platforms,

ANSI/SIA A92.6-1990 for ~~s~~Self-~~p~~Propelled ~~e~~Elevating ~~w~~Work ~~p~~Platforms,

ANSI/SIA A92.7-1990 for ~~a~~Airline ~~g~~Ground ~~s~~Support ~~v~~Vehicle-~~m~~Mounted ~~v~~Vertical ~~l~~Lift ~~d~~Devices~~.~~,

ANSI/SIA A92.9-1993 for Mast-Climbing Work Platforms.

(c) The above plates shall contain the following data, when applicable:

(1) Make, model and manufacturer's serial number.

(2) Rated capacity at the maximum platform height.

~~(A) Maximum capacity at the maximum platform height.~~

(3) Maximum platform travel height.

~~(A) Maximum travel height.~~

(4) Maximum recommended operating pressure of hydraulic or pneumatic system(s) or both.

(5) Basic ~~C~~cautions or restrictions of operation or both.

(6) Basic ~~O~~operating instructions, and/or instructions referring users to the manufacturer's operating manual.

(7) ~~Manufacturer's~~ ~~r~~Rated line voltage (if applicable) ~~(dielectric capability)~~.

(8) Alternative configurations shall require in addition to the above:

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(A) Chart, schematic, or scale showing capacities of all combinations in their operating positions.

(B) Caution or restrictions or both, of operation of all alternate or combinations of alternate configurations.

EXCEPTION to (c)(8): For mast-climbing work platform alternative configurations, the plate may refer the operator to the operating/instruction manual.

(d) Employees shall be instructed in the proper use of the platform in accordance with this Article, the manufacturer's operating instructions and Section 3203, Injury and Illness Prevention Program.

(e) All aerial devices and elevating work platforms shall be assembled and erected by a qualified person in accordance with the manufacturer's specifications and this Article and shall be maintained in safe operating condition.

(1) If the manufacturer is no longer in business and instructions are no longer available, assembly and erection shall be performed by a qualified person under the direction of a registered professional engineer experienced in the design of elevating work platforms or aerial devices.

(f) ~~See Article 37 of the High-Voltage Safety Orders~~ Work performed when using elevating work platforms or aerial devices in proximity to energized high voltage lines shall be in accordance with Article 37 of the High-Voltage Electrical Safety Orders.

NOTE: See Title 8, Low Voltage Electrical Safety Orders for work below 600 volts.

(g) All electrical tests shall conform to the requirements of the applicable ANSI Standard or equivalent d.c. voltage test approved by the equipment manufacturer or equivalent entity.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

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§3639. Factors of Safety in Design of Work Platform Assembly.

(a) Where the platform is supporting its rated work load by a system of wire ropes or lift chains, or both, the safety factor of the wire rope or chain system shall not be less than ~~6~~ 8 to 1 based on ultimate strength.

(b) All critical components of a hydraulic or pneumatic system used in a work platform shall have a bursting strength that exceeds the pressure attained when the system is subjected to the equivalent of four times the rated work load. Critical components are those in which a failure would result in a free fall or free rotation of the boom. All noncritical hydraulic components shall have a bursting safety factor of at least 2 to 1.

(c) Automatic safety devices or systems shall be provided to prevent free fall of the work platform should a failure of the power supply or elevating system occur.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

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§3640. Inspection, Maintenance and Repairs.

(a) Inspection, Maintenance and Repairs:

(1) Inspection, maintenance and repairs shall be performed by a qualified person in accordance with the manufacturer's specifications.

(2) If the manufacturer is no longer in business and manufacturer's specifications are no longer available, required inspection, maintenance and repairs shall be performed by a qualified person under the direction of a registered professional engineer experienced in the design of elevating work platforms or aerial devices.

(3) ~~(a)~~ The materials used in the repair of aerial devices and elevating work platforms shall conform to standard specifications of strength, dimensions, and weights, and shall be selected to safely support the rated work load.

(b) Electrical wiring and equipment shall ~~meet~~ comply with the provisions of the California Electrical Safety Orders (CCR Title 8).

(c) All exposed surfaces shall be free from sharp edges, burrs, or other hazardous projections.

(d) Records. Records of inspections and repairs shall be maintained for at least three years and be made available to the Division upon request.

(1) Records of inspections shall document the date of inspection, any deficiencies found, the corrective action recommended and identification of the persons or entities performing the inspection.

(2) Records of repairs shall include the date of any such repair, a description of the work accomplished and identification of the persons or entities performing the work.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

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§3642. Elevating Work Platform Equipment.

(a) The platform deck shall be equipped with:

A guardrail or other structure around its upper periphery that shall be 42 inches high, plus or minus 3 inches, with a midrail. (Chains or the equivalent may be substituted where they give equivalent protection.) Where the guardrail is less than 39 inches high, an approved personal fall protection system as defined in Section 3207 of these Orders shall be used in accordance with the requirements of Section 3648(o) of this Article.

(1) For mast-climbing work platforms used by glaziers, bricklayers and stonemasons, the inboard guardrail may be removed provided: (a) the inboard edge of the work platform or platform extension is no more than 7 inches from the finish face of the building or structure on which the work is being performed or (b) approved personal fall protection systems are used in accordance with Section 1670.

(2) For all other mast-climbing work platforms not included in (a)(1), the inboard guardrail may be removed provided: (a) the inboard edge of the work platform or platform extension is no more than 12 inches from the building or structure wall or (b) approved personal fall protection systems are used in accordance with Section 1670.

NOTE: Equipment buckets, tubs, or pin-on platforms refer to Section 3647.

(b) The configuration of an elevating work platform may include a ladder for personnel to use in reaching the platform deck. Any ladder device used in this way shall have rungs located on uniform centers not to exceed 12 inches.

(c) Any elevating work platform equipped with a powered elevating assembly and having a platform height exceeding 60 inches shall be supplied with safe emergency lowering means compatible with the specific elevating assembly employed.

(d) Any powered elevating work platform shall have both upper and lower control devices. Controls shall be plainly marked as to their function and guarded to prevent accidental operation. The upper control device shall be in or beside the platform, within easy reach of the operator. The lower control device shall have the capability to lower the platform where the operator's safety is in jeopardy.

EXCEPTION: Mast-climbing work platform controls shall be located only on the platform.

(e) An emergency stopping device shall be provided at the upper controls of elevating work platforms.

(f) Elevating Work Platforms shall include:

(1) Toe boards at sides and ends which shall not be less than 3 1/2 inches high.

EXCEPTION: Toe boards may be omitted at the access openings and on television and movie camera booms.

(2) A hinged trap access door, if applicable.

(3) A platform whose minimum width shall not be less than 16 inches.

(g) Mast-climbing work platforms shall include the following fire safety provisions:

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(1) At least one-3A40BC fire extinguisher located not closer than five feet from the control panel.

(2) When fuel-powered equipment is being used, the equipment fuel supply shall be limited to no more than that required for a single shift.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.

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§3646. Operating Instructions (Elevating Work Platforms).

(a) No employee shall ride, nor tools, materials, or equipment be allowed on a traveling elevated platform unless the following conditions are met:

EXCEPTION: TV and Movie Camera Booms.

(1) The travel speed at Maximum Travel Height does not exceed 3 feet (0.9m) per second.

(2) Self-propelled units shall be equipped with electrical or other interlock means which will prevent driving them with the platform height greater than the Maximum Travel Height or at speeds greater than permitted at Maximum Travel Height.

(3) The surface upon which the unit is being operated is level with no hazardous irregularities or accumulation of debris which might cause a moving platform to overturn.

(b) Units shall be assembled, used, and disassembled in accordance with the manufacturer's instructions.

(c) ~~Units shall be assembled, and used only by personnel who have been trained in their use.~~ Units shall be inspected for damaged and defective parts before use.

(d) Units shall not be loaded in excess of the design working load and shall be taken out of service when damaged or weakened from any cause. They shall not be used until repairs are completed.

(e) Employees shall not sit, stand or climb on the guardrails of an elevating work platform or use planks, ladders, or other devices to gain greater working height or reach.

(f) Employees shall not work on units when exposed to high winds, storms, or when they are covered with ice or snow (unless provisions have been made to ensure the safety of the employees).

(g) Employees climbing or descending vertical ladders shall have both hands free for climbing.

NOTE: Employees should remove foreign substances, such as mud or grease from their shoes.

(h) Where moving vehicles are present, the work area shall be marked with warnings such as flags, roped off areas or other effective means of traffic control shall be provided.

EXCEPTION: Aircraft service areas.

(i) Unstable objects such as barrels, boxes, loose brick, tools, debris, shall not be allowed to accumulate on the work level.

(j) In operations involving production of small debris, chips, etc., and the use of small tools and materials, and where persons are required to work or pass under the equipment, screens shall be required between toeboards and guardrails. The screen shall extend along the entire opening, shall consist of No. 18 gage U.S. Standard Wire 1/2 inch mesh, or equivalent.

(k) Mast-climbing work platforms, shall not be used as construction personnel hoists or material hoists.

EXCEPTIONS for (k):

1. Theatrical and Television Motion Picture Industry.

2. This does not prohibit the transfer of tools, materials and/or workers using personal fall protection at the location where the work is being performed.

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(*l*) Employees shall be instructed by a qualified person in the safe use of the work platform in accordance with the manufacturer's operating instructions, and Section 3203, Injury and Illness Prevention Program.

(1) Instruction for employees who erect, disassemble, move, operate, use, repair, maintain, or inspect elevating work platforms shall include, but not be limited to, training in:

(A) The provisions of this section.

(B) The correct procedures for performing their assigned duties.

(C) The nature of hazards associated with the equipment, including electrical hazards, fall hazards and falling object hazards in the work area and correct procedures for dealing with those hazards.

(D) The safe operation and use of elevating work platforms and the proper handling of materials on the work platform.

(E) The maximum load capacity of the work platform based upon installed configuration.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Section 142.3, Labor Code.